

CLAIMS

1. A method of determining an adjusted color to be used for computing colorants for printing on a specified substrate, comprising:

5 specifying an apparent color;

estimating diffuse reflection from an outside surface of colorants when printed on the specified substrate; and

adjusting the specified color for the effects of the estimated diffuse reflection to determine a color to be used for computing the colorants.

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2. A method according to claim 1 wherein the specified color is a color spectrum.

3. A method according to claim 1 or claim 2 wherein the specified apparent color is determined from a measurement of a printed exemplar.

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4. A method according to any of the preceding claims and including determining a mixture of colorants based on the adjusted spectrum.

5. A method according to claim 4, including:

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printing the mixture of colorants as separate separations on the substrate.

6. A method according to claim 5 wherein the separations are printed as half-tone configurations.

7. A method according to claim 5 or claim 6 wherein the colorants comprise at least one process color.

8. A method according to any of claims 5-7 wherein determining the mixture of color components comprises determining a percent coverage of the colorants of the separations on the substrate.

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9. A method according to any of claims 5-8 and including correcting the estimate of diffuse reflection based on a percent coverage of the substrate by the colorants and repeating the determination of the color mixture based on the corrected estimate.

10. A method according to claim 4 and including printing the mixture of colorants as a single layer of mixed colorant.

5 11. A method of determining the OD of a printed colorant, comprising:
determining a visible wavelength region in which the color is at or near saturation; and
if a portion of a determination of saturation is found, determining the OD in a
wavelength region at which the color is not at or near saturation.

10 12. A method according to claim 11 and including, if none of the visible wavelength region
is at or near saturation:

determining the OD in a wavelength region at which the spectrum of light reflected
from the colorant is a minimum.

13. A method according to claim 11 or claim 12 and comprising:
acquiring a reflection spectrum of the printed colorant including at least a wavelength
region in which the color is not at or near saturation, wherein the OD is determined based on a
reflectance measurement at a wavelength in which the color is not at or near saturation.

20 14. A method according to claim 11 or claim 12 wherein determining the OD comprises:
filtering the reflection through a filter which passes at least a portion of the wavelength
region in which the color is not at or near saturation; and
measuring the filtered reflection.

25 15. A method of choosing a filter for performing the method of claim 14 from a plurality of
filters, comprising:

determining which of the filters in the plurality of filters blocks a maximum amount of
the reflected light without saturation of the measurement; and

utilizing the thus determined filter to filter the reflection prior to measurement.

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16. A method according to claim 14 or claim 15, wherein the colorant is a process color
and wherein the plurality of filters comprise a filter associated with each of the process colors,
each said filter selectively passing only wavelengths for which the colorant has a high
absorption and including: